

ATMOSPHERIC ELECTRICITY.

AURORAS.

Auroras were reported as follows: 6th, Eastport and Orono, Me.; Cambridge, Mass.; Pine River, Minn.; Fort Assinaboine, Mont.; Turin, N. Y.; Webster, S. Dak. 7th, Orono, Me. 14th, Philo, Ill.; in Ohio. 16th, Philo, Ill.; East Machias, Me. 18th, Saint Vincent, Minn.; East Sound, Wash. 19th, East Machias and Orono, Me.; East Sound, Wash. 22d, Morgantown, W. Va. 25th, Corner Stone, Ark. 28th, Woodbridge, N. Dak. 29th, Angola, Ind. 30th, in Colorado.

THUNDERSTORMS.

Description of the more severe thunderstorms reported for the month is given under "Local storms."

Thunderstorms were reported as follows: East of the Rocky Mountains they were reported in the greatest number of states, 13, on the 8th; in 12 on the 22d and 23d; in 10 on the 7th and 8th; in 9 on the 16th; in 8 on the 6th; in 7 on the 21st; in 6 on the 28th; in 5 on the 9th, 15th, 17th, and 20th; in 4 on the 10th, 12th, and 26th; in 3 on the 3d, 5th, and 27th;

in 2 on the 11th, 13th, and 14th; and in 1 on the 1st, 2d, and 29th. No thunderstorms were reported on the 18th, 19th, 24th, and 30th.

East of the Rocky Mountains thunderstorms were reported on the greatest number of dates, 13, in Kansas; on 12 in Arkansas and Missouri; on 10 in Mississippi; on 8 in Louisiana; on 7 in Tennessee; on 6 in Illinois and Texas; on 5 in Indiana, Iowa, and Kentucky; on 4 in New York, Ohio, and Pennsylvania; on 3 in Alabama and Wisconsin; on 2 in Florida, Georgia, Michigan, Nebraska, and South Carolina; and on 1 in Connecticut, District of Columbia, Maryland, Massachusetts, Minnesota, New Hampshire, New Jersey, North Carolina, Virginia, and West Virginia.

West of the Rocky Mountains thunderstorms were reported in California on the 30th; in Colorado on the 7th; in Oregon on the 6th; in Washington on the 6th and 29th; and in Wyoming on the 30th. In states and territories other than those named no thunderstorms were reported.

MISCELLANEOUS PHENOMENA.

DROUGHT.

Drought continued in New Hampshire; wells were failing; streams were very low; and many mills and factories were compelled to suspend operations. On the 16th and 17th rain fell in the Croton Lake watershed, averting a water famine in New York City. At the close of the month the drought was becoming very severe in the interior of South Carolina. In parts of the Gulf States, Tennessee, and Kentucky the drought was broken by rains of the 8th to 10th. At New Orleans, La., it was broken on the 18th. At El Paso, Tex., trace, only, of rainfall occurred, and the month was the driest November since 1879. Drought continued in Arizona, and in some localities cattle were perishing. In parts of Indian Territory water was scarce on the ranges, and wells were failing. In Arkansas the drought was broken on the 1st. The month was very dry in parts of western Missouri. At Dubuque, Iowa, the drought was broken on the 7th. The early part of the month was dry

in southern Illinois and southern Indiana. Drought was reported throughout the month in parts of east-central and northwestern Wisconsin. The month was very dry in sections of southern Kansas.

PRAIRIE AND FOREST FIRES.

Prairie fires were reported east and northwest of Fort Assinaboine, Mont., on the 7th. Destructive prairie fires were reported in various sections of southern and western Kansas in the early part of the month. Extensive prairie fires occurred in Oklahoma and Indian territories the latter part of the month.

Forest fires occurred between Wilton and New Canaan, Fairfield county, Conn., the early part of the month. They were also reported in Rockland and Wright counties, N. Y., in Lamar and Coosa counties, Ala., near Chattanooga, Tenn., and in Carter county, Ky., during the first decade of the month.

STATE WEATHER SERVICES.

[Temperature in degrees Fahrenheit; precipitation, including melted snow, in inches and hundredths.]

The following extracts and summaries are republished from reports for November, 1891, of the directors of the various state weather services:

ALABAMA.

Temperature.—The mean was about normal; maximum, 90, at Brewton, 6th; minimum, 12, at Auburn, 30th; greatest monthly range, 71, at Florence; least monthly range, 32, at Chepultepec.

Precipitation.—The average was 1.22 below the normal; greatest monthly, 9.30, at Brewton; least monthly, 2.48, at Oxanna.

Wind.—Prevailing direction, northwest—*P. H. Mell, Observer, Weather Bureau, Auburn, director.*

ARIZONA.

Temperature.—Maximum, 98, at Arizona Canal Company's Dam, 4th; minimum, 11, at Holbrook, 4th; greatest monthly range, 63, at Arizona Canal Company's Dam and Phoenix; least monthly range, 30, at Eagle Pass.

Precipitation.—Rainfall occurred at 5 stations only; greatest monthly, 0.08, at Natural Bridge.

Wind.—Prevailing direction, west.—*J. C. Hayden, Observer, Weather Bureau, Tucson, director.*

ARKANSAS.

Temperature.—The mean was 1.0 below the normal; maximum, 87, at Monticello, 6th, and at Texarkana, 9th; minimum, 10, at Black Rock, 30th, and at Harrisburgh, 29th; greatest monthly range, 69, at Keesees Ferry; least monthly range, 52, at Winslow.

Precipitation.—The average was 1.13 above the normal; greatest monthly, 10.03, at Osceola; least monthly, 0.95, at Paragould.

Wind.—Prevailing direction, north.—*M. F. Locke, Commissioner of Agriculture, Little Rock, director; F. H. Clarke, Observer, Weather Bureau, assistant.*

CALIFORNIA.

The month was unusually dry.

Temperature.—Maximum, 94, at Winchester, 5th; minimum, 18, at Jackson, 15th and 18th; greatest monthly range, 63, at Winchester; least monthly range, 32, at Berkeley.

Wind.—Prevailing direction, northwest.—*J. A. Barwick, Observer, Weather Bureau, Sacramento, director.*

COLORADO.

Temperature.—The mean was 2.2 above the normal; maximum, 84, at Lamar and Thon, 5th; minimum, —12, at Breckenridge, 20th; greatest monthly range, 93, at Crook; least monthly range, 52, at Monte Vista.

Precipitation.—The average was 0.15 below the normal; greatest monthly, 6.70, at Climax; least monthly, 0.00, at a number of stations.

Wind.—Prevailing direction, west.—*W. S. Miller, Observer, Weather Bureau, Denver, director.*

FLORIDA.

Temperature.—Maximum, 88, at Archer, 1st and 29th; minimum, 27, at Tallahassee, 30th; greatest monthly range, 54, at Tallahassee; least monthly range, 20, at Key West.

Precipitation.—Greatest monthly, 3.88, at Pensacola; least monthly, 0.70, at Archer.